What is claimed is:

1. A method of converting fusion product energies into electric energy, comprising the steps of

injecting ions along a helical path within a tapered cylindrical cavity formed by first and second tapered hemi-cylindrical electrodes in spaced relation with one another forming first and second elongate gaps there between,

converting substantially all of the injected ions' axial energy to rotational energy,

forming an electric field within the cavity, the electric field comprising two poles, and

converting at least a portion of the ion energy into electrical energy.

2. The method of claim 1, further comprising the step of applying an oscillating potential to the first and second electrodes.

3. The method of claim 1, wherein the step of forming an electric field includes creating an azimuthal electric field across the first and second gaps.

4. The method of claim 1, further comprising the step of decelerating the ions.

5. The method of claim 1, wherein the ions are injected in the form an annular beam.

6. The method of claim 5 further comprising the step of creating a magnetic cusp.

7. The method of claim 6, further comprising the step of directing the annular beam through a magnetic cusp.

8. The method of claim 7, further comprising the step of collecting charge neutralizing electrons from the annular beam as the electrons follow magnetic field lines of the magnetic cusp.

9. The method of claim 8 further comprising the step of collecting the ions once a substantial portion of their energy is converted to electric energy.

10. The method of claim 1 further comprising the step of conditioning the electric energy converted from the ion energy to match existing power grids.

11. The method of claim 6 wherein the step of creating the magnetic cusp comprises the steps of creating first and second magnetic fields within the cavity, wherein field lines of the first and second magnetic fields extend in opposing directions, and joining the first and second magnetic fields.

12. A method of converting fusion product energies into electric power, comprising the steps of

creating an elongate electric field comprising two poles,

injecting ions in the form of an annular beam along a helical path through the electric field, and

converting at least a portion of the ion energy into electrical energy.

13. The method of claim 12, further comprising the step of applying an oscillating potential to two elongate electrodes in spaced relation with elongate gaps formed there between, the two elongate electrodes forming a cylindrical cavity.

14. The method of claim 13, wherein the electrodes form a tapered cylindrical cavity.

15. The method of claim 13, wherein the step of creating an elongate electric field includes creating azimuthal electric fields across the gaps.

16. The method of claim 13 further comprising the step of creating first and second magnetic fields within the cavity, wherein field lines of the first and second magnetic fields extend in opposing directions.

17. The method of claim 16 further comprising the step of joining the field lines of the first and second magnetic fields to form a magnetic cusp.

18. The method of claim 17 further comprising the step of directing the annular beam through the magnetic cusp.

19. The method of claim 12, further comprising the step of decelerating the ions.

20. The method of claim 12, wherein the injecting step includes converting substantially all of the ions' axial energy to rotational energy.

21. The method of claim 17, further comprising the step of collecting charge neutralizing electrons from the annular beam as the electrons follow magnetic field lines of the magnetic cusp.

22. The method of claim 21 further comprising the step of collecting the ions once a substantial portion of their energy is converted to electric energy.

23. The method of claim 22 further comprising the step of conditioning the electric energy converted from the ion energy to match existing power grids.